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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,776	06/30/2003	Thomas V. Harris	T-6152	1883
34014	7590	09/12/2005	EXAMINER	
CHEVRON TEXACO CORPORATION P.O. BOX 6006 SAN RAMON, CA 94583-0806			NGUYEN, TAM M	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/611,776

Applicant(s)

HARRIS ET AL.

Examiner

Tam M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7-11 and 15-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 7-11, and 15-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 1, 7-11, 15-18, 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (6,518,473) in view of either Vora et al. (5,672,795) or Gorawara et al. (5,271,835).

Miller discloses a dimerization process (oligomerization) by feeding an olefinic feed, which derives from Fischer-Tropsch synthesis, into an adsorption zone to remove oxygenates (e.g., alcohol). The treated feed is then contacted with an ionic liquid catalyst in a dimerization zone to produce a product having a higher average molecular weight and increased branching as compared to the olefinic feed. The product can be used as lubricating base oil and diesel. Miller discloses that the olefinic feed is dehydrated to produce a pure olefinic feed. Miller also discloses a step of hydrogenation of diolefins. (See abstract; col. 1, lines 64-67; col. 3, line 64 through col. 4, line 23; col. 5, lines 43-58; col. 9, lines 11-20, 40-41; col. 10, line 33 through col. 12, line 15)

Miller does not disclose that the adsorption zone comprises zeolitic molecular sieve such as 13X zeolite.

Both Vora and Gorawara disclose a process for separating oxygenates from a hydrocarbon feed by using X-zeolite. Since the zeolite of both Vora and Gorawara is the same as the claimed zeolite, the zeolite of Vora and Gorawara would have the characteristics as claimed. (See Vora; col. 7, line 21-31; Gorawara, col. 9, line 37-42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Miller by using the zeolite of either Vora or Gorawara because such zeolite is effective to remove oxygenates from a hydrocarbon feed. Consequently, the modified process of Miller would produce an olefinic product comprising substantially no oxygenates as claimed because of the similarities between the claimed process

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and the modified process of Miller in term of feedstock and adsorbent. Gorawara also discloses that the adsorbent is capable of producing a product containing less than 5 ppm of oxygenates.

See Gorawara, col. 9, line 37-42.

Claims 19-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over references as applied to claims 1, 7-11 and 15-18 above, and further in view of Hope et al. (6,395,948)

Miller does not specifically disclose the composition of the ionic liquid catalyst.

Hope discloses an oligomerization process by using an ionic liquid catalyst comprising aluminum trichloride (a) and trimethylamine hydrochloride (b) wherein the ratio of (a) to (b) ranges from 1:1 to 2:1. (See col. 2, lines 8-31)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Miller by using the ionic liquid catalyst of Hope because the catalyst of Hope is known to be effective in an oligomerization process.

Response to Arguments

The argument that there is no suggestion in the literature that even a small amount of oxygenates would interfere with the oligomerization process is not persuasive. Miller desires to remove oxygenate from the feed by any known method wherein both Vora and Gorawara disclose a process for removing substantially all of oxygenates from a hydrocarbon feed. One of skill in the art would employ the method of either Vora or Gorawara in the process of Miller whether or not Miller acknowledges that oxygenates are interfered in the oligomerization process. The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the

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prior art suggest the combination to achieve the same advantage or result discovered by applicant. In re Linter, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972) (discussed below); In re Dillon, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990), cert. denied, 500 U.S. 904 (1991).

The argument that Miller teaches a first and a second dimerization while Applicants' process is a single step oligomerization process which does not use either fixed bed or a solid catalyst is not persuasive. The claimed process does not exclude a second dimerization step. Also, the second dimerization step of Miller is optional. Miller teaches that other catalyst such as an ionic liquid catalyst can be employed in the process. When an ionic liquid catalyst is employed, a fixed bed would not be used because the catalyst is not in a solidified state.

The argument that the preferred catalyst used by Miller is a nickel ZSM-5 catalyst is not persuasive because the teachings and disclosures of the prior art would have suggested to one of ordinary skill in the art, even including unpreferred embodiments. See *In re Lamberti*, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976).

The argument that no basis for one skilled in the art to combine the teachings of Vora and Gorawara with that of Miller without an understanding of the importance of removing substantially all of the oxygenates present in a feed is not persuasive. As discussed above, Miller desires to remove oxygenate from the feed by any method wherein both Vora and Gorawara disclose a process for removing substantially all of oxygenates from a hydrocarbon feed. One of skill in the art would employ the method of either Vora or Gorawara in the process of Miller whether or not Miller acknowledges that oxygenates are interfered in the oligomerization process.

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The argument that Hope does not mention oxygenates or describe methods for their removal is not persuasive because the examiner relied upon Hope to teach that the claimed catalyst is known in the art and such catalyst would be used in the process of Miller because of its effectiveness.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (571) 272-1452. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tam M. Nguyen
Examiner
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TN

